

Figure 1  
(PRIOR ART)

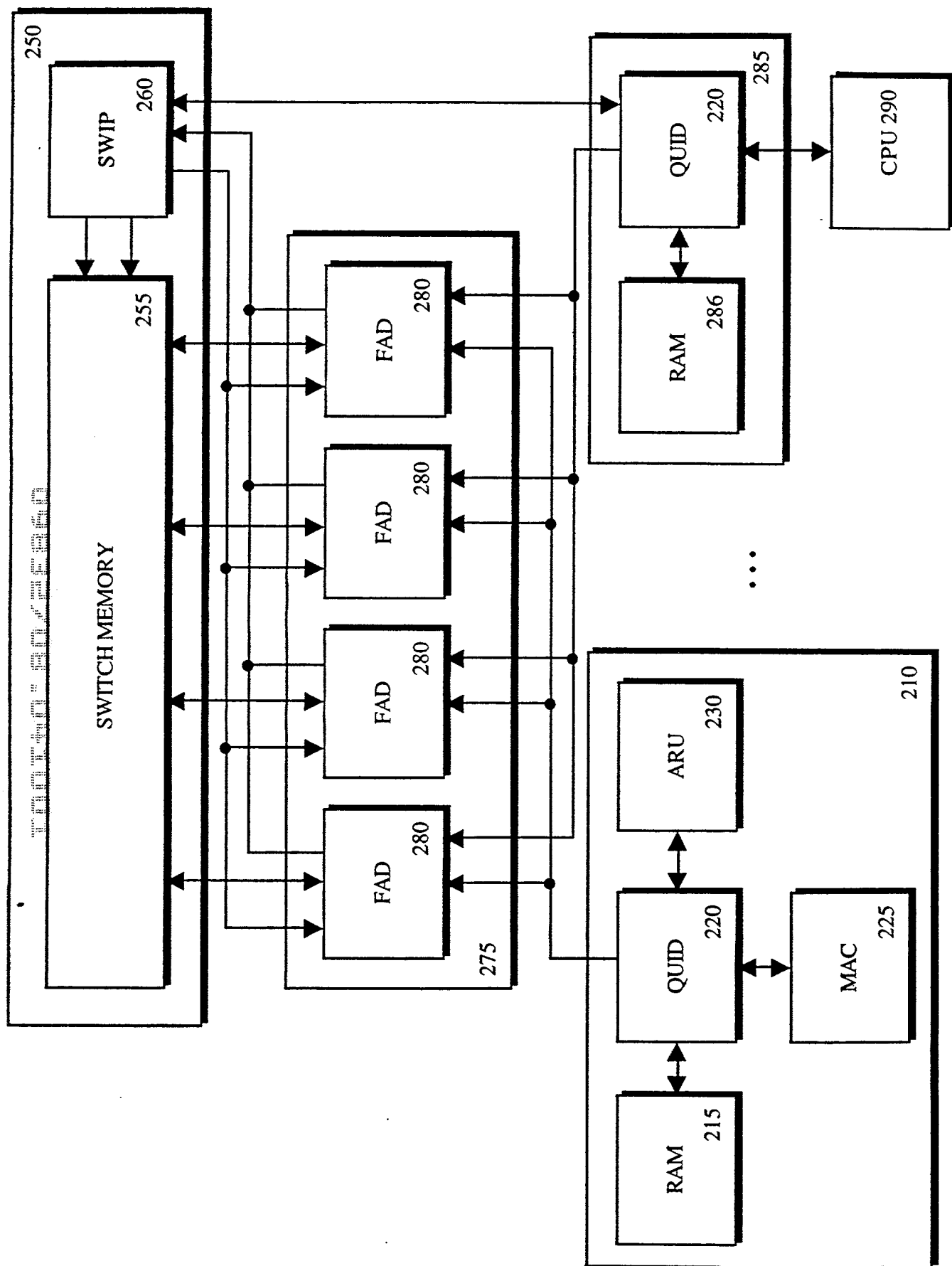


Figure 2

310	Destination Address: 11.1.2.65	= 00001011.00000001.00000010.01000001
320	Route #1	= 00001011.00000001.00000010.00000000
330	Route #2	= 00001011.00000001.00000000.00000000
340	Route #3	= 00001011.00000000.00000000.00000000

FIG. 3

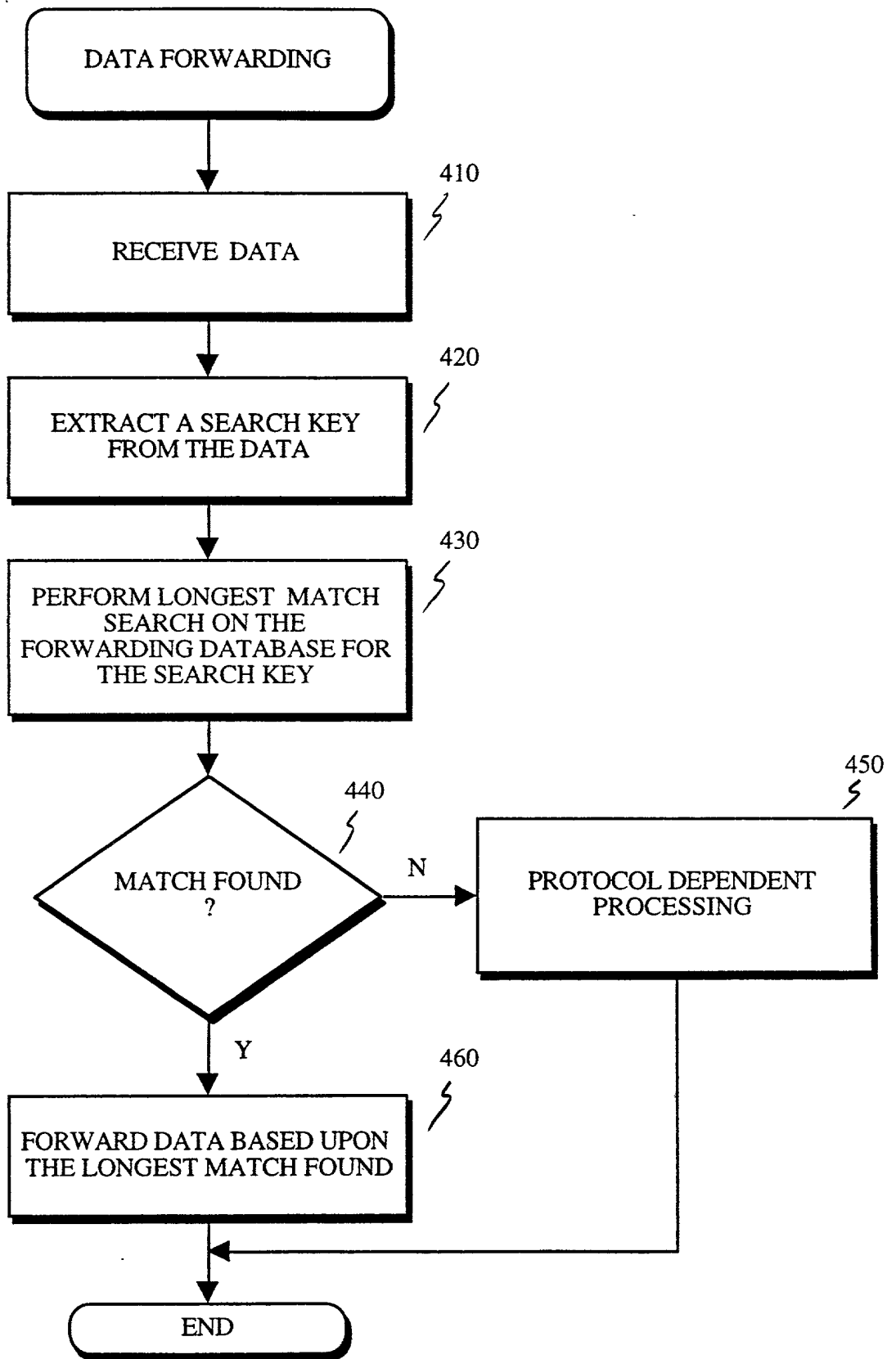


Figure 4

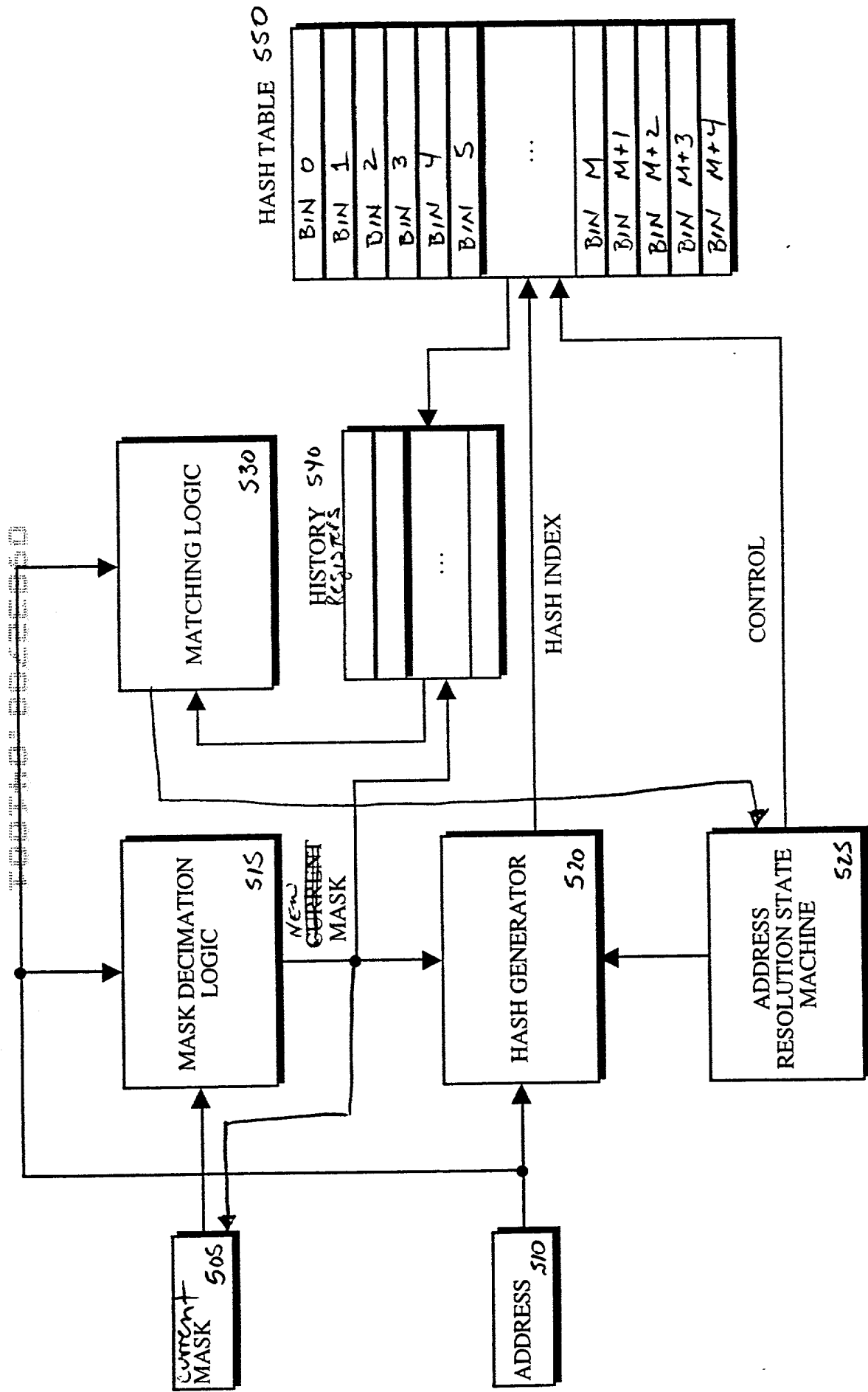


Figure 5

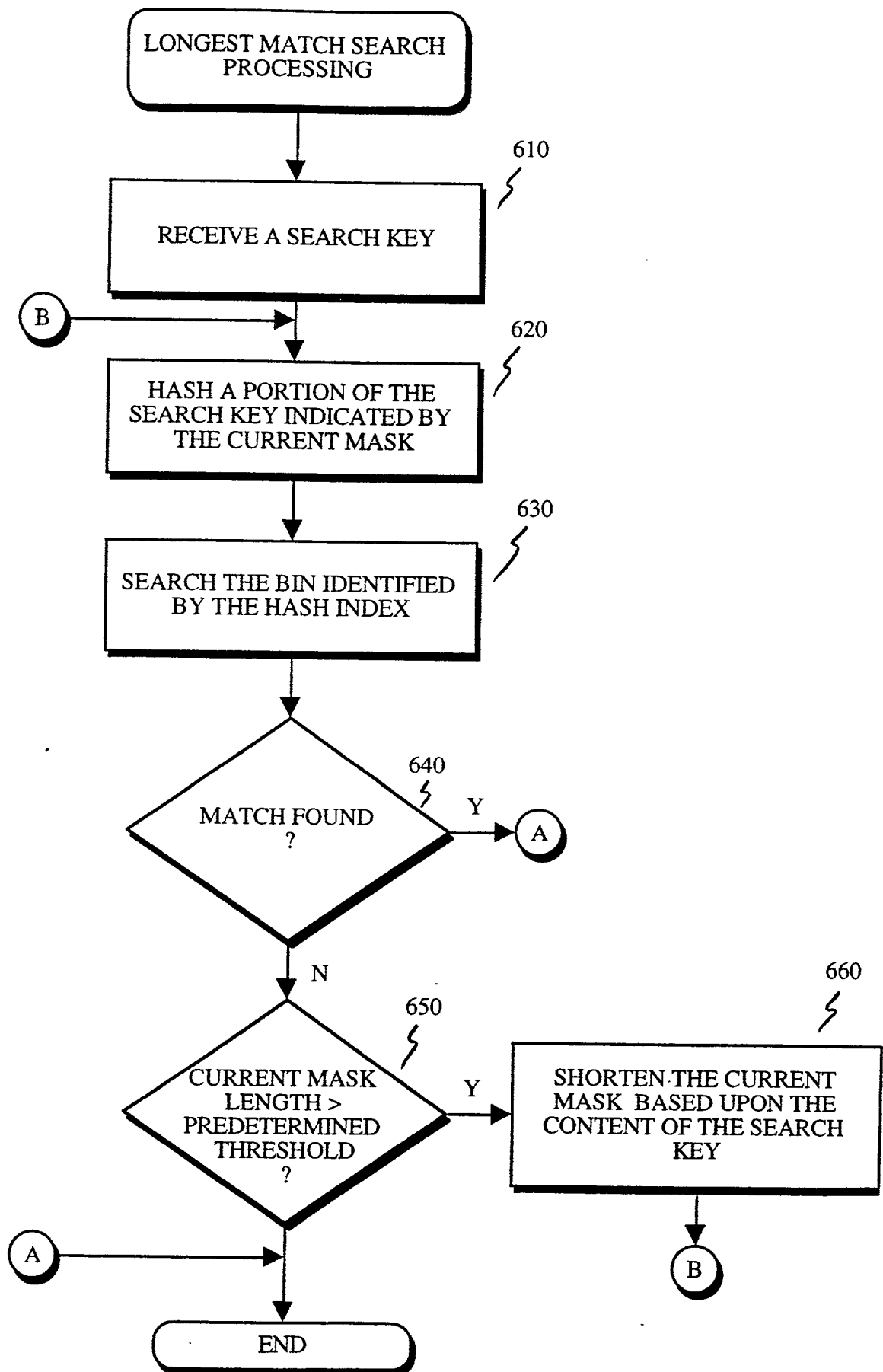


Figure 6

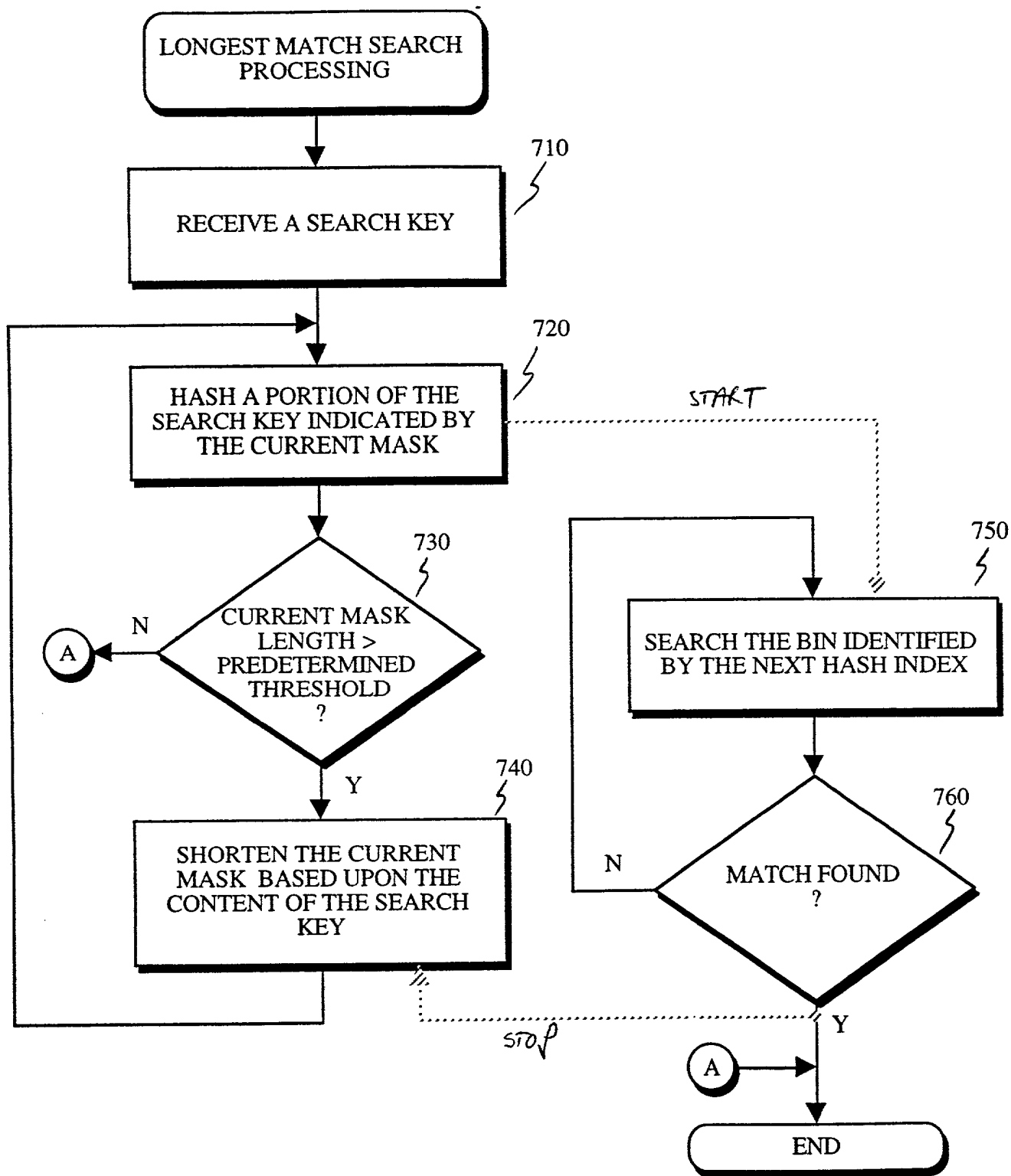


Figure 7

		MSB		LSB	
810	Search Key:	00001011	00000001	00000010	01000001
820	Current Mask:	11111111	11111111	11111111	11111110
830	Next Mask:	11111111	11111111	11111111	10000000
	Bit position	31	24	16	8 6 0

A horizontal double-headed arrow labeled 'N' spans from bit position 24 to bit position 8 in the 'Next Mask' row.

FIG. 8



### Bit-wise Mask Decimation

Address (hex)	Iteration	Mask (hex)	Masked Address (hex)
0B 01 02 41	1	FF FF FF FF	0B 01 02 41
	2	FF FF FF FE	0B 01 02 40
	3	FF FF FF FC	0B 01 02 40
	4	FF FF FF F8	0B 01 02 40
	5	FF FF FF F0	0B 01 02 40
	6	FF FF FF E0	0B 01 02 40
	7	FF FF FF C0	0B 01 02 40
	8	FF FF FF 80	0B 01 02 00

← Match

FIG. 9

### Address-sensitive Mask Decimation

Address (hex)	Iteration	Mask (hex)	Masked Address (hex)
0B 01 02 41	1	FF FF FF FF	0B 01 02 41
	2	FF FF FF FE	0B 01 02 40
	3	FF FF FF 80	0B 01 02 00
	4	FF FF 00 00	0B 01 00 00
	5	FF 00 00 00	0B 00 00 00

← Match

FIG. 10

Address	...	Mask
00011000 00010000 00000010 00000000		11111111 11111111 11111111 00000000
00011000 00010000 00000000 00000000		11111111 11111111 11111111 00000000
...		
00011000 00000000 00000000 00000000		11111111 00000000 00000000 00000000

2-110  
2-115  
2-120

FIG. 11A (PRIOR ART)

Address	...	Mask Length
00011000 00010000 00000010 00000000		11000
00011000 00010000 00000000 00000000		01000
...		
00011000 00000000 00000000 00000000		00100

2-1125  
2-1130  
2-1135

FIG. 11B (PRIOR ART)

Address + MASK INFORMATION	...
00011000 00010000 00000010 10000000 0	
00011000 00010000 10000000 00000000 0	
...	
00011000 10000000 00000000 00000000 0	

2-1140  
2-1145  
2-1150

FIG. 11C